Clinical Outcomes and Quality Metrics of Cervical Cancer Treatment in Rwanda

Victoria Umutoni, BA; Cyprien Shyirambere, MD; Ethan Katznelson, MD; Cam Nguyen, MSPH; Jean Bosco Bigirimana, BSN; Aline Umwizerwa, RN; Alan Paciorek, BS; Lisa Bazzett-Matabele, MD; Diomede Ntasumbumuyange, MD; Fredrick Asige, MD; Scott Triedman, MD; Lawrence N. Shulman, MD; Tharcisse Mpunga, MD; Rebecca DeBoer, MD, MA

Purpose

Cervical cancer is a leading cause of cancer-related mortality in Africa. As treatment capacity expands, it is critical to evaluate outcomes and identify targets for quality improvement. Here we describe a cohort of cervical cancer patients at Butaro Cancer Center (BCCOE) in rural Rwanda, many co-managed by gynecologic specialists at the national referral hospital and a subset referred for definitive chemoradiotherapy plus brachytherapy (CRT) in Nairobi based on available funds and estimated curability.

Methods

Setting: BCCOE is a rural district hospital run by the Rwandan Ministry of Health with support from the NGO Partners In Health.

Data Collection and Analysis: Data were extracted from clinical charts of all cervical cancer patients seen at BCCOE between 6/2016 and 6/2018. Descriptive statistics and Kaplan Meier (K-M) analysis were performed. ***For K-M analysis, referral for palliative care only and death were considered as events.*

Discussion

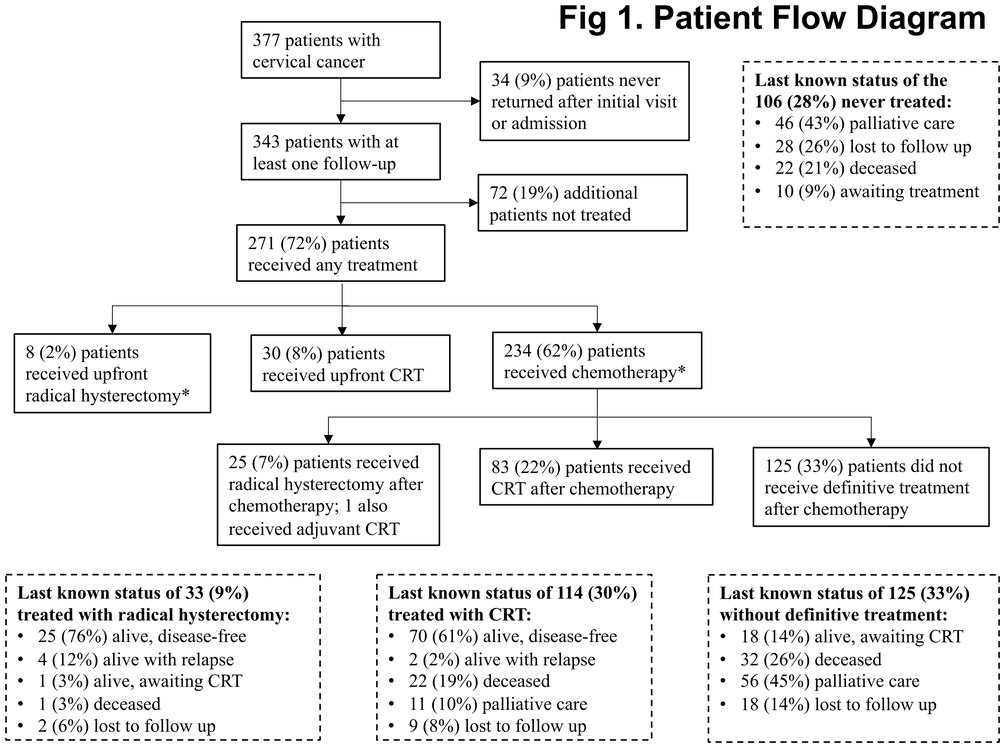
- Our data support a role for temporizing chemotherapy if delays in CRT initiation are anticipated, and palliative chemotherapy if definitive treatment is unavailable
- Most patients who received chemotherapy saw an improvement in symptoms such as pain, vaginal bleeding and discharge
- Chemotherapy alone was associated with survival benefit among patients who did not receive definitive treatment
- Multi-modality treatment of cervical cancer is effective in low resource settings through coordinated and pragmatic approaches
- Expanded and timely access to gynecologic oncology surgery and radiotherapy are urgently needed.

Results

- N=377 cervical cancer patients
- Median age: 54 years
- 21% were HIV positive
- 85% had squamous cell carcinoma
- 92% presented with ECOG 0-1
- 33 (9%) underwent radical hysterectomy
- 113 (30%) received CRT in Nairobi, representing 45% of eligible candidates on waiting list

Initial FIGO Stage	N	%
IA and IB1	6	2%
IB2	23	6%
IIA	33	9%
IIB	88	23%
IIIA	8	2%
IIIB	166	44%
IV	15	4%
Not documented	38	10%

Fig 1. Patient Flow Diagram



**One patient received adjuvant chemotherapy after radical hysterectomy for cervical neuroendocrine carcinoma and is thus included in both the n=8 who underwent radical hysterectomy and n=234 who received chemotherapy.*

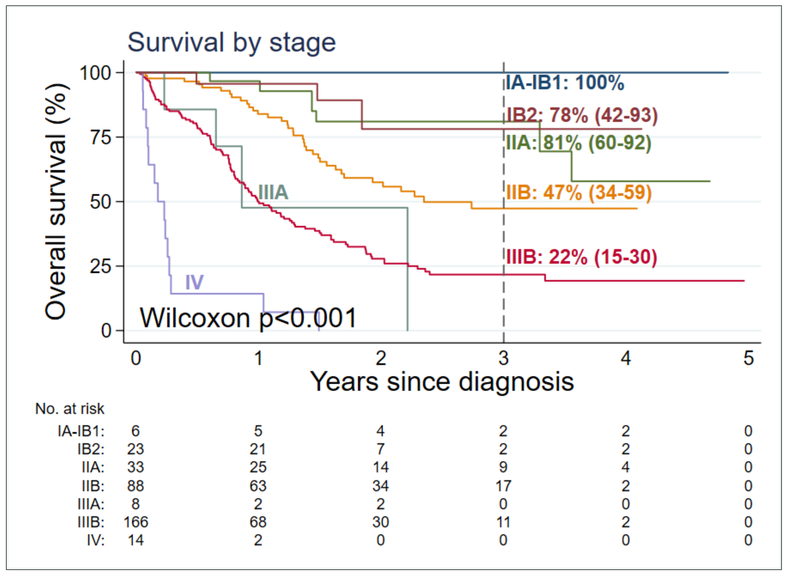


Fig 2: Survival stratified by initial FIGO stage. As expected, increasing stage was associated with worse survival.

- Hydronephrosis was associated with worse survival among stage IIIB patients (p<0.01)
- Patients with HIV had worse survival among those who received definitive treatment (p<0.01) and those who received CRT (p<0.01)

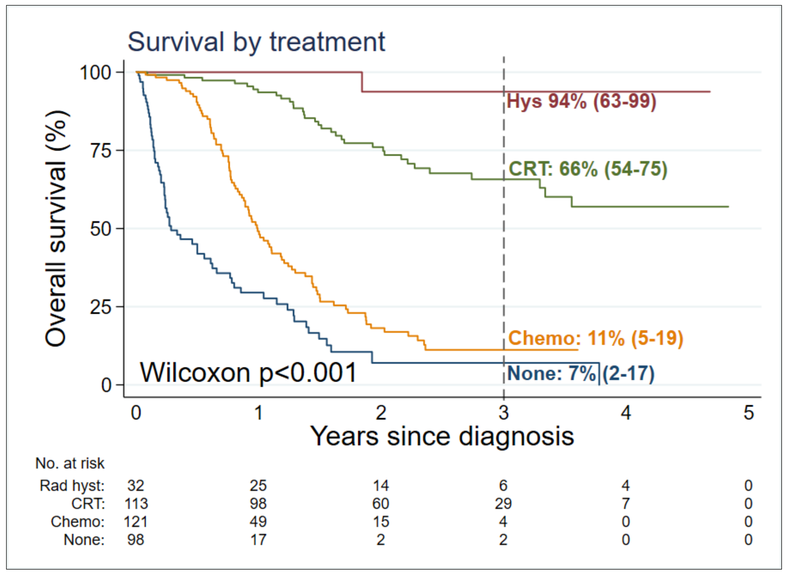


Fig 3: Survival by treatment received. Patients who underwent radical hysterectomy had best survival, followed by CRT, chemo alone, none.

- Patients who had "temporizing" chemo while awaiting CRT had similar survival to those who received upfront CRT (p=0.43)
- Chemo alone was associated with a median survival of 10.5 months compared to 2.4 months in patients who received no treatment (p<0.01)

Contact
Rebecca DeBoer, MD, MA
University of California San Francisco
Email: rebecca.deboer@ucsf.edu

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